REMARKS

Claims 1-21 are pending.

Claims 1-21 are rejected.

Claim 7 is amended to correctly depend from Claim 6 to correct an antecedent problem.

The Applicants respectfully assert that the amendments to Claim 7 and incorporated by reference in any claims depending therefrom, are not narrowing amendments made for a reason related to the statutory requirements for a patent that will give rise to prosecution history estoppel. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 122 S. Ct. 1831, 1839-40, 62 U.S.P.Q.2d 1705, 1711-12 (2002); 234 F.3d 555, 566, 56 U.S.P.Q.2d 1865, 1870 (Fed. Cir. 2001).

I.   EXAMINER INTERVIEW

The Applicant had a telephone conference with the Examiner on April 14, 2005 and discussed two points Applicant wants to discuss in a formal interview during the week of April 18, 2005. The first point is the fact that the claims in the present invention cite persistent states and connections which do not appear in the cited prior art and the Examiner makes no indication of what she considers in the cited art to be persistent states and connections. The second point of discussion is the fact that the Examiner's 103 rejections are based on dissimilar art, one which discusses energy management and the other that discusses optimization of communication channels using a bin packing algorithm recited in the claims of the present invention. The Applicant contends that since the cited energy management art *Howard* does not mention any types of algorithms, there would be no motivation to look to *Jefferies* which teaches the use of the bin packing algorithm for optimization of communication channels. The Applicant agreed to fax the agenda to the Examiner so that a date for the formal interview can be set.

The Applicant had a second telephone interview with the Examiner on April 18, 2005 to reiterate the issues discussed in the first interview. The Applicant pointed out where persistent states and connections was discussed and defined in the Specification as and pointed out that *Howard* made no mentions of persistent states or connections in his power management method. Likewise, the Applicant again pointed out that *Howard* did not use any algorithm in his power management method and there would be no motivation to combine the teachings of *Jeffries* with *Howard* to arrive at the present invention. The Examiner thanked the Applicant for these comments and said she would consider them in reviewing Applicant's response.

II.   REJECTION UNDER 35 U.S.C. § 102(e)

The Examiner rejected Claims 1, 8 and 15 under *35 U.S.C. § 102(e)* as being anticipated by U.S. Patent No. 6,711,691 to *Howard et al.* (hereafter "*Howard*").

For a reference to anticipate a claimed invention, the reference must disclose every aspect of the claimed invention. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

The Examiner has stated that *Howard* teaches the invention of Claim 1. *Howard* teaches power management wherein processors and sub-system components are activated and shut down or OFF in a controlled manner. The Applicant recognizes this strategy for power management in the Background section of the present invention, wherein the Applicant points out that the approach taken by *Howard* wherein system components are activated and shut down using workload constraints, while done so in a controlled manner, is not enough to provide optimum power management for cluster systems. The present invention states:

"Modern cluster systems used in large database systems (e.g., Internet) are being configured into super-dense cluster systems where many processors are placed on a

single processor board and many such multiple processor (MP) boards are housed in racks." This may create very high power density concerns. Many strategies are being proposed to have dynamic power distribution management to deal with the high power densities of MP servers. Some of these techniques advocate shutting down some processors or machines if the aggregate workload may not use the entire processing capacity of the cluster. The Applicant then points out that "it may not be possible to shut down a machine or a processor within the cluster if there is an executing long-running task. Also, if there are persistent links between the machine and other machines or clients, or if there is a persistent state information that exists in volatile or stable memory that must be maintained on behalf of clients. Having limitations posed by the requirements of persistent connections and states thus greatly reduces the possibilities for power management strategies. There is, therefore, a need for a method to eliminate limitations of persistent connections and states to facilitate power management in high density servers. See page 2, lines 19-26 in the Specification of the present disclosure. Prior art such as *Howard*, while powering up and down system components in a controlled manner, does not mention using persistent states and connections in his method. Rather, *Howard* waits for tasks to complete before powering up of powering down system components. This is in contrast with the present invention where persistent states and connections may be migrated from underutilized resources to other resources so that the underutilized resources may be shut down in a more immediate manner while maintaining system operational integrity.

Claim 1 recites a method for managing workload distribution in a multiple processor cluster system to conserve energy, comprising the 5 steps. In step 1, persistent states and connections are classified within the cluster system according to an activity referencing the persistent states and connections. The Applicant is unable to find any cited reference of *Howard* wherein *Howard* teaches or suggests step 1 of Claim 1. Step 1 is an important distinction between simply power up or down system components in a controlled manner as taught by *Howard* and power management as recited in Claim 1. In step 2, a request to modify a workload of the cluster system is received. In step 3 a

minimum number of processors in the cluster system for executing the modified -workload while maintaining the persistent states and connections is determined. Nowhere does *Howard* teach or suggest maintaining persistent states and connections. *Howard* simply interrupts operation in a controlled manner and powers system components when he is able. In step 4, a workload distribution within the minimum number of processors that satisfies the modified workload while maintaining the persistent states and connections is determined. In step 5, an operation mode of a selected processor in the processors of the cluster system is modified to conserve energy while satisfying the modified workload while maintaining said persistent states and connections. The Applicant acknowledges the strategy of *Howard*, however, the Applicant also recognizes *Howard*'s strategy for power management is not adequate for cluster systems wherein optimization of power must be accomplished within the constraints of persistent states and connection. Simply applying *Howard*'s approach of powering system components ON, OFF, or into standby is not enough to meet power management goals and also maintain system constraints of persistent states and connections. The approach of *Howard* results in a sub-optimum power management when implemented in cluster systems with many persistent states and connections. The Examiner fails to show where he believes *Howard* teaches or suggests persistent states or connections as recited in Claim 1. Using a controller and handshaking operations between units to power down or up in a controlled manner requires only that a system complete its present task before being powered down; it does not entail making power management decisions while maintaining persistent states and connections. The Applicant asserts that the Examiner does not specifically address the important limitation of classifying and maintaining persistent states and connections within a cluster system as a basis for power management decisions and therefore fails to make a *prima facie* case of anticipation by the cited references of *Howard* over the invention of Claim 1. Therefore, the Applicant respectfully asserts that the rejection of Claim 1 under *35 U.S.C. § 102(e)* as being anticipated by *Howard* is traversed by the above arguments.

Claim 8 is directed to a cluster system that has circuitry for implementing the method steps of Claim 1. The Examiner does not specifically address the limitations of Claim 8 and rejects Claim 8 for the same reasons as Claim 1. For this reason, the Applicant asserts that the Examiner fails to make a *prima facie* case of anticipation by the cited references of *Howard* over the invention of Claim 8. Therefore, the Applicant respectfully asserts that the rejection of Claim 8 under *35 U.S.C. § 102(e)* as being anticipated by *Howard* is traversed by the above arguments and for the same reasons as Claim 1.

Claim 15 is directed to a computer program product that implements the method steps of Claim 1. The Examiner does not specifically address the limitations of Claim 15 and rejects Claim 15 for the same reasons as Claim 1. For this reason, the Applicant asserts that the Examiner fails to make a *prima facie* case of anticipation by the cited references of *Howard* over the invention of Claim 15. Therefore, the Applicant respectfully asserts that the rejection of Claim 15 under *35 U.S.C. § 102(e)* as being anticipated by *Howard* is traversed by the above arguments and for the same reasons as Claim 1.

Claim 2 is dependent from Claim 1 and contains all the limitations of Claim 1. Claim 2 adds step 6 of migrating persistent states and connections within said cluster system to effect the workload distribution in step 4 of Claim 1. The Examiner states that in addition to teaching the invention of Claim 1, *Howard* teaches step 6 of Claim 2 and cites *Howard*, column 4, lines 4-50 without specifically pointing out where step 6 of Claim 2 appears in the recitation of *Howard*.

In this recitation, *Howard* states that "the hierarchical nature of the power management provided by the invention has various levels of power management such that power consumption of the computer system is <u>dependent upon the amount of work placed on the processing resources</u> of the computer system. Another aspect of the invention pertains to <u>deterministic handshaking</u> provided between a power manager and one or more controller units. The <u>deterministic handshaking</u> provides for more reliable

and <u>controllable transitions between power management states</u> which have associated power management taking place in the controller units. While *Howard* is discussing using handshaking in his power management method, this in <u>no way implies migrating persistent states and connections within the cluster system to effect the workload distribution in step 4 of Claim 1.</u> The rest of this recitation of *Howard* explains that *Howard* uses the intensity of workload execution (heavy or light) in deciding which systems or sub-systems to power up, down or put into standby. Nowhere does *Howard* teach or suggest <u>migrating persistent states and connections within the cluster system to effect the workload distribution</u> as recited in Claim 2 of the present invention. Therefore, the Applicant respectfully asserts that the rejection of Claim 2 under *35 U.S.C. § 102(e)* as being anticipated by *Howard* is traversed by the above arguments and for the same reasons as Claim 1.

Claim 9 is dependent from Claim 8 and contains all the limitations of Claim 8. The Applicant has shown that the Examiner has failed to make a *prima facie* case of anticipation over *Howard* for Claim 8. Claim 9 adds the same limitation to Claim 8 as Claim 2 adds to Claim 1. The Examiner does not specifically address the limitations of Claim 9 and rejects Claim 9 for the same reasons as Claim 2. For this reason, the Applicant asserts that the Examiner fails to make a *prima facie* case of anticipation by the cited references of *Howard* over the invention of Claim 9. Therefore, the Applicant respectfully asserts that the rejection of Claim 9 under *35 U.S.C. § 102(e)* as being anticipated by *Howard* is traversed by the above arguments and for the same reasons as Claim 2.

Claim 16 is dependent from Claim 15 and contains all the limitations of Claim 15. The Applicant has shown that the Examiner has failed to make a *prima facie* case of anticipation over *Howard* for Claim 15. Claim 16 adds the same limitation to Claim 15 as Claim 2 adds to Claim 1. The Examiner does not specifically address the limitations of Claim 16 and rejects Claim 9 for the same reasons as Claim 2. For this reason, the Applicant asserts that the Examiner fails to make a *prima facie* case of anticipation by the

cited references of *Howard* over the invention of Claim 16. Therefore, the Applicant respectfully asserts that the rejection of Claim 16 under *35 U.S.C. § 102(e)* as being anticipated by *Howard* is traversed by the above arguments and for the same reasons as Claim 2.

Claim 3 is dependent from Claim 1 and contains all the limitations of Claim 1. Claim 2 adds the limitation that operation mode of the selected processor is modified by setting the selected processor to an off mode. The Examiner states that in addition to teaching the invention of Claim 1, *Howard* teaches the limitation of Claim 3 and cites *Howard*, column 8, lines 18-31 without specifically pointing out where the limitation of claim 3 appears in the recitation of *Howard*.

In this recitation, *Howard* simply states that his power management states "include an off state 202, a run single state 204, a run multiple state 206, a nap multiple state 207, a nap single state 208, an idle single state 210, and a sleep all state 212." However, nowhere does *Howard* teach or suggest the limitations of Claim 3 in conjunction with all the limitations of Claim 1. The Applicant has shown that *Howard* does not teach or suggest all the limitations of Claim 1 and therefore *Howard* does not teach or suggest the invention of Claim 3 which includes all the limitations of Claim 1. Therefore, the Applicant respectfully asserts that the rejection of Claim 3 under *35 U.S.C. § 102(e)* as being anticipated by *Howard* is traversed by the above arguments and for the same reasons as Claim 1.

Claim 10 is dependent from Claim 8 and contains all the limitations of Claim 8. The Applicant has shown that the Examiner has failed to make a *prima facie* case of anticipation over *Howard* for Claim 8. Claim 10 adds the same limitation to Claim 8 as Claim 3 adds to Claim 1. The Examiner does not specifically address the limitations of Claim 10 and rejects Claim 10 for the same reasons as Claim 3. For this reason, the Applicant asserts that the Examiner fails to make a *prima facie* case of anticipation by the cited references of *Howard* over the invention of Claim 10. Therefore, the Applicant respectfully asserts that the rejection of Claim 10 under *35 U.S.C. § 102(e)* as being

anticipated by *Howard* is traversed by the above arguments and for the same reasons as Claim 3.

Claim 17 is dependent from Claim 15 and contains all the limitations of Claim 15. The Applicant has shown that the Examiner has failed to make a *prima facie* case of anticipation over *Howard* for Claim 15. Claim 17 adds the same limitation to Claim 15 as Claim 3 adds to Claim 1. The Examiner does not specifically address the limitations of Claim 17 and rejects Claim 17 for the same reasons as Claim 3. For this reason, the Applicant asserts that the Examiner fails to make a *prima facie* case of anticipation by the cited references of *Howard* over the invention of Claim 17. Therefore, the Applicant respectfully asserts that the rejection of Claim 17 under *35 U.S.C. § 102(e)* as being anticipated by *Howard* is traversed by the above arguments and for the same reasons as Claim 3.

Claim 4 is dependent from Claim 1 and contains all the limitations of Claim 1. Claim 2 adds the limitation that operation mode of the selected processor is modified by setting the selected processor to a stand-by mode. The Examiner states that in addition to teaching the invention of Claim 1, *Howard* teaches the limitation of Claim 3 and cites *Howard*, column 8, lines 30-67 without specifically pointing out where the limitation of claim 3 appears in the recitation of *Howard*.

In this recitation, *Howard* simply states that his power management states "include an off state 202, a run single state 204, a run multiple state 206, a nap multiple state 207, a nap single state 208, an idle single state 210, and a sleep all state 212." Further, *Howard* explains what he means by each of these states. However, nowhere does *Howard* teach or suggest the limitations of Claim 4 in conjunction with all the limitations of Claim 1. The Applicant has shown that *Howard* does not teach or suggest all the limitations of Claim 1 and therefore *Howard* does not teach or suggest the invention of Claim 4 which includes all the limitations of Claim 1. Therefore, the Applicant respectfully asserts that the rejection of Claim 4 under *35 U.S.C. § 102(e)* as

being anticipated by *Howard* is traversed by the above arguments and for the same reasons as Claim 1.

Claim 11 is dependent from Claim 8 and contains all the limitations of Claim 8. The Applicant has shown that the Examiner has failed to make a *prima facie* case of anticipation over *Howard* for Claim 8. Claim 11 adds the same limitation to Claim 8 as Claim 4 adds to Claim 1. The Examiner does not specifically address the limitations of Claim 11 and rejects Claim 11 for the same reasons as Claim 4. For this reason, the Applicant asserts that the Examiner fails to make a *prima facie* case of anticipation by the cited references of *Howard* over the invention of Claim 11. Therefore, the Applicant respectfully asserts that the rejection of Claim 11 under *35 U.S.C. § 102(e)* as being anticipated by *Howard* is traversed by the above arguments and for the same reasons as Claim 4.

Claim 18 is dependent from Claim 15 and contains all the limitations of Claim 15. The Applicant has shown that the Examiner has failed to make a *prima facie* case of anticipation over *Howard* for Claim 15. Claim 18 adds the same limitation to Claim 15 as Claim 4 adds to Claim 1. The Examiner does not specifically address the limitations of Claim 18 and rejects Claim 18 for the same reasons as Claim 4. For this reason, the Applicant asserts that the Examiner fails to make a *prima facie* case of anticipation by the cited references of *Howard* over the invention of Claim 18. Therefore, the Applicant respectfully asserts that the rejection of Claim 18 under *35 U.S.C. § 102(e)* as being anticipated by *Howard* is traversed by the above arguments and for the same reasons as Claim 4.

Claim 5 is dependent from Claim 1 and contains all the limitations of Claim 1. Claim 2 adds the limitation that operation mode of the selected processor is modified by setting the selected processor to an active full power mode from an off or a stand-by mode. The Examiner states that in addition to teaching the invention of Claim 1, *Howard* teaches the limitation of Claim 5 and cites *Howard*, column 5, lines 12-35 without

14

specifically pointing out where the limitation of claim 5 appears in the recitation of *Howard*.

In this recitation, *Howard* simply discusses staging processor activation and deactivation. However, nowhere does *Howard* teach or suggest <u>the limitations of Claim 5 in conjunction with all the limitations of Claim 1.</u> The Applicant has shown that *Howard* does not teach or suggest all the limitations of Claim 1 and therefore *Howard* does not teach or suggest the invention of Claim 5 which includes all the limitations of Claim 1. Therefore, the Applicant respectfully asserts that the rejection of Claim 5 under *35 U.S.C. § 102(e)* as being anticipated by *Howard* is traversed by the above arguments and for the same reasons as Claim 1.

Claim 12 is dependent from Claim 8 and contains all the limitations of Claim 8. The Applicant has shown that the Examiner has failed to make a *prima facie* case of anticipation over *Howard* for Claim 8. Claim 12 adds the same limitation to Claim 8 as Claim 4 adds to Claim 1. The Examiner does not specifically address the limitations of Claim 12 and rejects Claim 12 for the same reasons as Claim 5. For this reason, the Applicant asserts that the Examiner fails to make a *prima facie* case of anticipation by the cited references of *Howard* over the invention of Claim 12. Therefore, the Applicant respectfully asserts that the rejection of Claim 12 under *35 U.S.C. § 102(e)* as being anticipated by *Howard* is traversed by the above arguments and for the same reasons as Claim 5.

Claim 19 is dependent from Claim 15 and contains all the limitations of Claim 15. The Applicant has shown that the Examiner has failed to make a *prima facie* case of anticipation over *Howard* for Claim 15. Claim 19 adds the same limitation to Claim 15 as Claim 4 adds to Claim 1. The Examiner does not specifically address the limitations of Claim 19 and rejects Claim 19 for the same reasons as Claim 5. For this reason, the Applicant asserts that the Examiner fails to make a *prima facie* case of anticipation by the cited references of *Howard* over the invention of Claim 19. Therefore, the Applicant respectfully asserts that the rejection of Claim 19 under *35 U.S.C. § 102(e)* as being

anticipated by *Howard* is traversed by the above arguments and for the same reasons as Claim 5.

III.   REJECTION UNDER 35 U.S.C. § 103(a)

The Examiner rejected Claims 6-7, 13-14 and 20-21 under *35 U.S.C. § 103(a)* as being unpatentable over *Howard* in view of U.S. Patent No. 6,035,333 to *Jeffries et al.* (hereafter "*Jeffries*").

To establish a *prima facie* case of obviousness, the Examiner must meet three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be some reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations.

The Examiner states that *Howard* teaches the invention of Claims 1, 8, and 15. The Examiner then states that *Howard* teaches the limitations of Claims 6, 13, and 20. The Applicant asserts the Examiner made an error and meant to say that *Howard* fails to teach that the step of determining the workload distribution for said minimum number of processors uses a constraint based bin packing algorithm as stated in Claims 1, 8, and 15. The Examiner then states that *Jeffries* teaches a method and system for providing congestion control in a data communication network using a constraint based bin packing algorithm and cites *Jeffries* column 5, lines 14-32. The Examiner is thus asserting that the combination of *Howard* and *Jeffries* teaches the invention of Claim 6.

The Applicant has previously stated that under the rules of the MPEP, "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." *Howard* teaches power management in a system and *Jeffries* teaches a method and system for providing congestion control in a data communication network. No where in *Howard* does he mention using an algorithm of

any kind in determining how and when to power down, place in stand-by or power up system components within a system. *Howard* simply looks at the workload and determines which of his available resources are required to accomplish the workload. If he has too few resources, he brings resources on line in a controlled manner and if he has to many resources for the workloads he puts system resources in one of several possible low power modes, again in a controlled manner using handshaking between a power management controller and the system components. Since *Howard* does not use any method or system for congestion control in a communication network, there is no motivation to look to *Jeffries*. Likewise, since *Howard* does not use any stated algorithm, there is not reason to look to *Jeffries* because he uses the particular bin packing algorithm. Claim 6 of the present invention is constrained to maintain persistent states and connections and thus must base the decisions on how to optimize the number processors necessary to do active or planned workloads on a constrained decision process. In particular, Claim 6 states that step 4 of Claim 1, determining the workload distribution for the minimum number of processors uses a constraint based bin packing algorithm. Finally, the cited references must teach all of the claimed limitations. The Applicant has shown that *Howard* does not teach or suggest the method of Claim 1. The Examiner does not state that *Jeffries* adds anything relative to Claim 1. The Applicant asserts that nowhere does *Howard* or *Jeffries*, singly or in combination, teach or suggest the invention of Claim 6. Therefore, the Applicant respectfully asserts that the rejection of Claim 6 under *35 U.S.C. § 103(a)* as being unpatentable over *Howard* in view of *Jeffries* is traversed by the above arguments and for the same reasons as Claim 1.

Claim 13 is dependent from Claim 8 and contains all the limitations of Claim 8. The Applicant has shown that *Howard* does not teach or suggest the method of Claim 8. The Examiner does not specifically address the limitations of Claim 13 and rejects Claim 13 for the same reasons as Claim 6. For this reason, the Applicant asserts that the Examiner fails to make a *prima facie* case of obviousness by the cited references of *Howard* and *Jeffries* over the invention of Claim 13. The Examiner does not state that *Jeffries* adds anything relative to Claim 8. The Applicant asserts that nowhere does

Howard or *Jeffries*, singly or in combination, teach or suggest the invention of Claim 13. Therefore, the Applicant respectfully asserts that the rejection of Claim 13 under *35 U.S.C. § 103(a)* as being unpatentable over *Howard* in view of *Jeffries* is traversed by the above arguments and for the same reasons as Claims 1 and 8.

Claim 20 is dependent from Claim 15 and contains all the limitations of Claim 15. The Applicant has shown that *Howard* does not teach or suggest the method of Claim 8. The Examiner does not specifically address the limitations of Claim 20 and rejects Claim 20 for the same reasons as Claim 6. For this reason, the Applicant asserts that the Examiner fails to make a *prima facie* case of obviousness by the cited references of *Howard* and *Jeffries* over the invention of Claim 20. The Examiner does not state that *Jeffries* adds anything relative to Claim 15. The Applicant asserts that nowhere does *Howard* or *Jeffries*, singly or in combination, teach or suggest the invention of Claim 20. Therefore, the Applicant respectfully asserts that the rejection of Claim 20 under *35 U.S.C. § 103(a)* as being unpatentable over *Howard* in view *Jeffries* is traversed by the above arguments and for the same reasons as Claims 1 and 6.

The Examiner states that in addition to teaching the invention of Claims 1, 8, and 15. The Examiner then states that *Howard* <u>fails</u> to teach that a particular constraint of the constrained bin packing algorithm of Claims 6, 13, and 20 comprises minimizing a number of processes and states migrated to effect the workload distribution of Claims 1, 8, and 15 as recited in step 4. The Examiner then states that *Jeffries* teaches a method and system for providing congestion control in a data communication network using a constraint based bin packing algorithm and cites *Jeffries* column 5, lines 14-32. The Examiner is asserting that the combination of *Howard* and *Jeffries* teaches the invention of Claim 7.

The Applicant has previously stated that under the rules of the MPEP, "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." *Howard* teaches power management in a system and

Jeffries teaches a method and system for providing congestion control in a data communication network. No where in *Howard* does he mention using an algorithm of any kind in determining how and when to power down, place in stand-by or power up system components within a system. *Howard* simply looks at the workload and determines which of his available resources are required to accomplish the workload. If he has too few resources he brings resources on line in a controlled manner and if he has to many resources for the workloads he puts system resources in one of several possible low power modes, again in a controlled manner using handshaking between a power management controller and the system components. Since *Howard* does not use any method or system for congestion control in a communication network, there is no motivation to look to *Jeffries*. Likewise, since *Howard* does not use any stated algorithm, there is not reason to look to *Jeffries* because he uses the particular constrained bin packing algorithm. Claim 7 of the present invention recites that a particular constraint of the constrained bin packing algorithm of Claims 6, 13, and 20 comprise minimizing a number of processes and states migrated to effect the workload distribution of Claims 1, 8, and 15. Finally, the cited references must teach all of the claimed limitations. The Applicant has shown that *Howard* does teach or suggest the method of Claim 6. The Examiner does not state that *Jeffries* adds anything relative to Claim 6. The Applicant asserts that nowhere does *Howard* or *Jeffries*, singly or in combination, teach or suggest the invention of Claim 7. Therefore, the Applicant respectfully asserts that the rejection of Claim 7 under *35 U.S.C. § 103(a)* as being unpatentable over *Howard* in view of *Jeffries* is traversed by the above arguments and for the same reasons as Claims 1 and 5.

Claim 14 is dependent from Claim 13 and contains all the limitations of Claim 13. The Applicant has shown that *Howard* does not teach or suggest the method of Claim 13. The Examiner does not specifically address the limitations of Claim 14 and rejects Claim 14 for the same reasons as Claim 7. For this reason, the Applicant asserts that the Examiner fails to make a *prima facie* case of obviousness by the cited references of *Howard* and *Jeffries* over the invention of Claim 14. The Examiner does not state that *Jeffries* adds anything relative to Claim 7. The Applicant asserts that nowhere does

Howard or *Jeffries*, singly or in combination, teach or suggest the invention of Claim 14. Therefore, the Applicant respectfully asserts that the rejection of Claim 14 under *35 U.S.C. § 103(a)* as being unpatentable over *Howard* in view of *Jeffries* is traversed by the above arguments and for the same reasons as Claims 1 and 13.

Claim 21 is dependent from Claim 20 and contains all the limitations of Claim 20. The Applicant has shown that *Howard* does not teach or suggest the method of Claim 13. The Examiner does not specifically address the limitations of Claim 21 and rejects Claim 21 for the same reasons as Claim 7. For this reason, the Applicant asserts that the Examiner fails to make a *prima facie* case of obviousness by the cited references of *Howard* and *Jeffries* over the invention of Claim 21. The Examiner does not state that *Jeffries* adds anything relative to Claim 7. The Applicant asserts that nowhere does *Howard* or *Jeffries*, singly or in combination, teach or suggest the invention of Claim 21. Therefore, the Applicant respectfully asserts that the rejection of Claim 21 under *35 U.S.C. § 103(a)* as being unpatentable over *Howard* in view of *Jeffries* is traversed by the above arguments and for the same reasons as Claims 1 and 20.

IV.   CONCLUSION

Claim 7 has been amended to correctly depend from Claim 6 to correct an antecedent basis problem.

The Applicant has traversed the rejections of Claims 1-5, 8-12, and 15-19 under *35 U.S.C. § 102(e)* as being anticipated by *Howard*.

The Applicant has traversed the rejections of Claims 6-7, 13-14, and 20-21 under *35 U.S.C. § 103(a)* as being unpatentable over *Howard* in view of *Jeffries*.
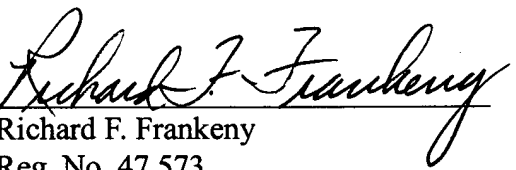
The Applicant, therefore, respectfully asserts that amended Claim 7, Claims 1-6, and Claims 8-21 are now in condition for allowance and request an early allowance of these claims.

Applicant respectfully requests that the Examiner call Applicant's attorney at the below listed number if the Examiner believes that such a discussion would be helpful in resolving any remaining problems.

Respectfully submitted,

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